

## WHAT IS CLAIMED IS:

1. A hydration system for providing fluid to a user, comprising:  
a bladder configured to hold a fluid, wherein bladder comprises an outer layer of  
5 fluorinated rubber composite;  
a spout connected to the bladder and in communication with the inside of the bladder,  
wherein the spout comprises an output port and an fill port for filling the bladder with fluid;  
a cap adapted to engage and close the fill port;  
a tube having a first end connected to the output port of the spout and having a second  
10 end connected to a fluid delivery fitting.
2. The system of claim 1, wherein the bladder is flexible.
3. The system of claim 1 wherein the bladder comprises an inner layer of thermoplastic  
15 polyurethane.
4. The system of claim 1, wherein the cap is adapted to screw into the fill port.
5. The system of claim 1, wherein the spout has a width and a height, wherein the width is  
20 greater than height.
6. The system of claim 5, wherein the tube is made of flexible plastic.
7. The system of claim 1, wherein the fluorinated rubber composite comprises a polyamide  
25 reinforcing layer and a thermoplastic polymer layer.
8. A process for manufacturing a hydration system, comprising:  
connecting a spout to a laminate used to form a bladder by securing the spout in a hole in  
the laminate;  
30 forming a bladder from the laminate, wherein the laminate comprises an outer fluorinated  
rubber composite layer and an inner layer of a thermoplastic polymer;

connecting a first end of a tube to an output port of the spout; and  
connecting a fluid delivery fitting to a second end of the tube.

9. The process of claim 8, further comprising engaging a cap to an fill port of the spout.

10. The process of claim 8, wherein the bladder is flexible.

11. The process of claim 8, wherein the bladder comprises an inner layer of thermoplastic polymer is a thermoplastic polyurethane.

12. The process of claim 8, wherein the cap is adapted to screw into the fill port.

13. The process of claim 8, wherein the spout has a width and a height, wherein the width is greater than height.

14. The process of claim 8, wherein the tube is made of flexible plastic.

15. The system of claim 8, wherein the fluorinated rubber composite comprises a polyamide reinforcing layer and a thermoplastic polymer layer.

16. A method of storing a fluid, comprising:

at least partially filling the hydration system an fill port with a fluid, and closing the system by engaging the cap to the fill port, wherein the hydration system comprises:

a bladder configured to hold a fluid, wherein bladder comprises an outer layer of fluorinated rubber composite;

a spout connected to the bladder and in communication with the inside of the bladder, wherein the spout comprises an output port and an fill port for filling the bladder with fluid;

a cap adapted to engage and close the fill port;

a tube having a first end connected to the output port of the spout and having a second end connected to a fluid delivery fitting.

17. The method of claim 16, wherein the bladder is flexible.
18. The method of claim 16, wherein the bladder comprises an inner layer of thermoplastic polyurethane.
- 5 19. The method of claim 16, wherein the cap is adapted to screw into the fill port.
20. The method of claim 16, wherein the spout has a width and a height, wherein the width is greater than height.
- 10 21. The method of claim 16, wherein tube is made of flexible plastic.
22. The system of claim 16, wherein the fluorinated rubber composite comprises a polyamide reinforcing layer and a thermoplastic polymer layer.
- 15 23. A bladder to store fluid, comprising:  
an inner bladder layer of a thermoplastic polymer and an outer bladder encompassing the inner bladder, wherein the outer bladder layer comprises fluorinated rubber.
- 20 24. The bladder of claim 24, wherein the inner bladder layer is comprised of thermoplastic polyurethane.
- 25 25. The bladder of claim 25, wherein the outer bladder is comprised of a multiplayer laminate of the fluorinated rubber layer, a polyamide reinforcement layer, and a thermoplastic polymer layer.
26. The bladder of claim 23, wherein the bladder includes a hole to fill the bladder with liquid.
- 30 27. A hydration system for providing fluid to a user, comprising:

a bladder configured to hold a fluid, wherein bladder comprises an outer layer of chemically resistant composite;

a spout connected to the bladder and in communication with the inside of the bladder, wherein the spout comprises an output port and an fill port for filling the bladder with fluid;

5 a cap adapted to engage and close the fill port;

a tube having a first end connected to the output port of the spout and having a second end connected to a fluid delivery fitting.

28. The bladder of claim 27, wherein the chemically resistant composite is a fluorinated  
10 rubber composite.